REMARKS

Claims 29-52 are currently pending and under examination. By the present amendment new claims 53-56 have been added. Upon entry of the amendment claims 29-56 will be pending.

Support for new claims 53-55 can be found in the specification, for example, at page 52, lines 9-24. Support for new claim 56 can be found in the specification, for example, at page 10, line 9. Accordingly, the amendments do not raise any issues of new matter. Therefore, entry of the amendments is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 29-35 are rejected under 35 USC § 103(a) as allegedly obvious over Whitehead, et al. (U.S. 4,879,097) in view of Kolehmainen, et al. (U.S. 4,349,510) and Tajima et al. (U.S. 5,682,232). The Office Action alleges that Whitehead et al. describes a device including all of the elements of the claimed hybridization chamber with the exception of a sealant between the base plate and the lid forming an airtight seal. Kolehmanian is relied upon for allegedly describing the use of an o-ring to make a light-tight closure. The Office Action alleges that one skilled in the art would have been motivated to replace the ribs (21) between the base plate and lid of the Whitehead et al. device with an o-ring because the ribs and o-ring have equivalent light excluding properties. The Office Action further alleges that an o-ring used in the device of Whitehead et al. would inherently provide an airtight seal. The Office Action acknowledges that the combination of Whitehead et al. and Kolehmanian et al. does not teach a clamp providing increased pressure between the lid and base plate. Tajima et al. is relied upon as allegedly disclosing use of an elastic sealing member when forming a light tight seal and use of a clamp for increasing pressure on the elastic sealing member. The motivation to further modify the device of Whitehead et al. to also include a clamp providing pressure on the o-ring is alleged to arise from the known and expected result of providing a light-tight seal.

Applicants respectfully traverse the rejection for the reasons already of record and for the reasons set forth below. Applicants, contend that there would not have been sufficient motivation

in the art to modify the device of Whitehead et al. to include an o-ring and a clamp. In this regard, the Office Action points out that an o-ring would be equivalent to the ribs of Whitehead in forming a light tight closure. Applicant contends that if it were the case, *arguendo*, that the light sealing properties of the o-ring were equivalent to those of the Whitehead et al. rib then there would not have been any motivation to further modify the o-ring containing device to include a clamp. Rather, inclusion of a clamp on an already satisfactorily modified device of Whitehead would have provided no additional advantages. One skilled in the art would not have been motivated to add a clamp or any other extra moving parts to the device of Whitehead absent some motivation or perceived advantage to doing so. As stated in MPEP 2143.01, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Moreover, any attempt to assert that the motivation to use a clamp arises from the equivalence of an o-ring with and without a clamp is improper. The Office Action points to MPEP at section 2144.06 in asserting that substituting equivalents known for the same purpose is proper when the equivalency is recognized in the prior art. Applicant, respectfully points out that although the o-ring may be capable of being used for the same purpose with and without a clamp, it does not follow that an o-ring in combination with a clamp is *equivalent* to an o-ring without the clamp because each will have different properties including differences in the ease of use and manufacture. For example, use of a clamp requires further manipulation of the chamber such that the risk of unwanted shaking of the liquid contents is greater compared to a case where a clamp is not used. As set forth, in the Whitehead et al. specification special care must be taken not to shake liquids when transferring and dispensing the liquids (see, for example, column 6, lines 50-59). Accordingly, a clamp combined with an o-ring is not equivalent to an o-ring absent the clamp in the context of their alleged use in the device of Whitehead et al.

Furthermore, the cited art does not provide any motivation to make an airtight seal in the device of Whitehead et al. Rather, the Office Action maintains that the characteristic of making an airtight seal is an inherent property of an o-ring. The latest Office Action newly asserts that

an o-ring would provide better contamination protection for the chamber of Whitehead et al. However, this is at best an identification of another inherent property of an o-ring. Nowhere does the Office Action point to any motivation in the art to seal the Whitehead et al. device from air or to protect the device from contamination. Even if there were some motivation in the cited references to protect the Whitehead et al. chamber from contamination, there is no motivation to provide protection to the degree provided by a clamped o-ring. The ribs of the unmodified device would provide contamination protection against most contaminants such as dust, aerosols or the like. Any contaminants that would likely be blocked by a clamped o-ring, but not by the ribs, could well have been introduced by use of the device as suggested by Whitehead et al. including, for example, the act of sealing hole 32 in the device with a finger to maintain fluid in tubes 28, or the act of exposing the fluid to the ambient environment while transferring the device to a recording apparatus as described at column 6, line 41, through column 7, line 1. Nowhere does Whitehead et al. taken alone or in combination with any of the other art of record, suggest a need for preventing contamination beyond what is already provided by the ribs already present in the Whitehead et al. device.

As set forth above, there is no motivation in the art of record to modify the device of Whitehead et al. to have an airtight seal, much less to do so by replacing the ribs (21) with an o-ring and a clamp. Applicants respectfully request withdrawal of the rejection of claims 29-35 under 35 USC § 103 over Whitehead, et al. in view of Kolehmainen, et al. and Tajima et al.

New claim 53 requires a sample solution comprising a plurality of different target analytes having a fluorescent label as claimed. In contrast, Whitehead et al. describes the use of a luminescent label in a detection device. There is no suggestion in the art of record to modify the device of Whitehead et al. to include target analytes having a fluorescent label. Therefore, new claim 53 is not obvious.

Claims 36-51 are rejected under 35 USC § 103(a) as allegedly obvious over Whitehead, et al. (U.S. 4,879,097) in view of Kolehmainen, et al. (U.S. 4,349,510) and Tajima et al. (U.S. 5,682,232) taken further in view of Walt et al. (U.S. 6,327,410). The Office Action alleges that

Whitehead et al. describes use of a fiber optic sensor and that Walt et al. describes use of a fiber optic sensor having different bioactive agents. The Office Action further alleges that it would have been obvious to modify the fiber optic sensor of Whitehead et al. to include the bioactive agents described in Walt et al. for the known and expected result of providing a means recognized in the art for contacting a fiber optic sensor with a sample analyte for detection.

Applicants respectfully traverse the rejection for the reasons already of record and for the reasons set forth below. Applicants maintain that the combination of Whitehead et al., Kohlemanian et al. and Tajima et al. does not teach or suggest the claimed hybridization chamber including the recited clamp for the reasons set forth above in response to the rejection of claims 29-35. Walt et al. does not cure the deficiencies of these two references because Walt et al., taken alone or in combination with them, does not teach or suggest making or using a clamp providing increased pressure between the lid and the baseplate of the Whitehead et al. device, whether or not the Whitehead et al. device includes the o-ring of Kohlemanian et al. Therefore, Applicants respectfully request withdrawal of the rejection of claims 36-51 under § 103 over Whitehead, et al. in view of Kolehmainen, et al. and Tajima et al. and further in view of Walt et al.

Applicants further contend that new claim 54 is not obvious over Whitehead, et al. in view of Kolehmainen, et al. and Tajima et al. and further in view of Walt et al. As set forth above in regard to new claim 53, the references of Whitehead et al., Kohlemanian et al. and Tajima et al. do not teach or suggest including a sample solution comprising a plurality of different target analytes having a fluorescent label as claimed. Walt et al. does not cure the deficiencies of the first three references. Therefore, new claim 54 is not obvious.

New claim 55 is not obvious over Whitehead, et al. in view of Kolehmainen, et al. and Tajima et al. and further in view of Walt et al. because the references taken alone or in combination do not teach or suggest a hybridization chamber wherein, *inter alia*, a plurality of the different bioactive agents are bound to a plurality of different target analytes having the fluorescent label. As set forth above, the art of record does not teach or suggest use of a

fluorescent label in the device of Whitehead et al. Even assuming, *arguendo*, that there would have been some motivation to use a fluorescent label in the device of Whitehead et al. there would not have been any motivation to include both a sample solution comprising a plurality of different target analytes having a fluorescent label and an array component comprising a plurality of different bioactive agents that are bound to a plurality of target analytes having the fluorophore as claimed. More specifically, the art of record does not teach or suggest any need or advantage to making or using a recording device, such as that described by Whitehead et al., that has the same fluorophore bound to an array and in a solution bathing the array because there is no suggestion of the ability to detect array bound fluorophores in the presence of the same fluorophores in solution. Therefore, new claim 55 is not obvious.

Applicants further contend that claim 56 is not obvious over Whitehead, et al. in view of Kolehmainen, et al. and Tajima et al. and further in view of Walt et al. Claim 56 requires that the first array component is not a fiber optic array. The Office Action relies upon the disclosure in Whitehead et al. of supports taking the form of fiber optic sensors and the disclosure in Walt of using fiber optic sensors having different bioactive agents. Any teaching or suggestion of modifying a fiber optic sensor of Whitehead et al. to a form described by Walt et al. would not have motivated one skilled in the art to make and use a hybridization chamber in which the first array component is *not* a fiber optic array. Therefore, new claim 56 is not obvious.

Claims 29 and 52 are rejected under 35 USC § 103(a) as allegedly obvious over Whitehead, et al. (U.S. 4,879,097) in view of Kolehmainen, et al. (U.S. 4,349,510) and Tajima et al. (U.S. 5,682,232) taken further in view of Heffelfinger et al. (U.S. 5,784,152). Applicants respectfully traverse the rejection. Applicants maintain that the combination of Whitehead et al., Kohlemanian et al. and Tajima et al. does not teach or suggest the claimed hybridization chamber including the recited clamp for the reasons set forth above in response to the rejection of claims 29-35. Heffelfinger et al. does not cure the deficiencies of these two references because Heffelfinger et al., taken alone or in combination with them, does not teach or suggest making or using a clamp providing increased pressure between the lid and the baseplate of the Whitehead et al. device, whether or not the Whitehead et al. device includes the o-ring of

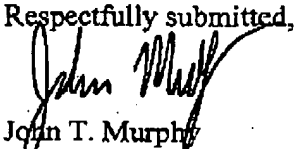
Kohlemanian et al. Therefore, Applicants respectfully request withdrawal of the rejection under § 103 over Whitehead, et al. in view of Kolehmainen, et al. and Tajima et al. and further in view of Heffelfinger et al.

Claims 37-40 and 52 are rejected under 35 USC § 103(a) as allegedly obvious over Whitehead, et al. (U.S. 4,879,097) in view of Kolehmainen, et al. (U.S. 4,349,510), Tajima et al. (U.S. 5,682,232) and Walt et al. (U.S. 6,327,410) taken further in view of Heffelfinger et al. (U.S. 5,784,152). Applicants respectfully traverse the rejection. Applicants maintain that the combination of Whitehead et al., Kohlemanian et al., Tajima et al. and Walt et al. does not teach or suggest the claimed hybridization chamber including the recited clamp for the reasons set forth above in response to the rejection of claims 36-51. Heffelfinger et al. does not cure the deficiencies of these two references because Heffelfinger et al., taken alone or in combination with them, does not teach or suggest making or using a clamp providing increased pressure between the lid and the baseplate of the Whitehead et al. device, whether or not the Whitehead et al. device includes the o-ring of Kohlemanian et al. Therefore, Applicants respectfully request withdrawal of the rejection of claims 37-40 and 52 under § 103 over Whitehead, et al. in view of Kolehmainen, et al., Tajima et al. and Walt et al. and further in view of Heffelfinger et al.

CONCLUSION

In light of the Amendments and Remarks herein, Applicant submits that the claims are in condition for allowance and respectfully request a notice to this effect. The Examiner is invited to call the undersigned agent should there be any questions.

Respectfully submitted,



Date: August 22, 2005

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